REMARKS

Upon entry of the foregoing amendments, claims 1-7, 14-20, 25-31, 36 and 39-44 are pending. Claims 1, 2 and 3 are independent. No new matter has been added. The Final Office Action dated August 8, 2008 has been received and carefully reviewed. The preceding amendments and the following remarks form a full and complete response thereto. Applicant respectfully requests reconsideration.

Examiner Interview

Applicant, Victory Yodaiken, and Applicant's representatives, Martin Zoltick and Ryan Wallace, wish to thank Examiner Debnath for extending the courtesy of the in office interview held on December 30, 2008, and for the helpful and courteous discussions. Applicant's representatives believe that prosecution of the present application was materially advanced based on the discussion of the pending claims, the Examiner's rejections set forth in the Office Action mailed August 8, 2008, and the prior art, as summarized in the December 30, 2008 Examiner Interview Summary.

Rejection of Claims 3 and 27-38 under 35 U.S.C. § 103(a)

Claims 3, 27 and 31 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over REDSonic, Inc., http://www.redsonic.com/en/products/RealTime.htm; Copyright 2002, pp1-4, ("REDSonic") and further in view of U.S. Pat. 7,152,242 to Douglas. Claims 28-30 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over REDSonic and further in view of Douglas and Berg et al. (U.S. Patent Pub. No. US 2001/0044904). Claims 32-35 and 37-38 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over REDSonic and further in view of Douglas and U.S. Pat.

6,640,242 to O'Neal. Claim 36 was rejected under 35 U.S.C. § 103(a) as being allegedly obvious over REDSonic and further in view of Douglas, O'Neal and Berg.

Applicant respectfully traverses each of the rejections and submits that none of the cited prior art, taken alone or in combination, discloses or suggests each and every feature of the present claims.

As previously discussed, REDSonic and Douglas, taken alone or in combination, fail to teach or suggest all of the features of claim 3. Applicants agree that REDSonic discloses a dual-kernel operating system comprising a real time kernel and a non-real-time kernel, with a first real-time thread running under the real-time kernel. The REDSonic reference does not, however, disclose or teach a first real-time thread being configured to monitor an application running under the non-real-time kernel. The portion of REDSonic cited by the Office Action discloses a layer that is inserted between the interrupt-control hardware and the standard Linux kernel. This layer acts to isolate standard Linux from the interrupt control hardware. As the REDSonic reference notes, this approach allows for the layer executing on the real-time kernel to suspend execution of standard Linux whenever an interrupt arrives. This, however, is not the same as the claimed first real-time thread being configured to monitor an application running under a non-real-time kernel. The layer executing under a real-time thread in REDSonic is monitoring interrupt control hardware and not an application running under the non-real-time kernel, as required by claim 3. Thus, REDSonic fails to disclose or suggest each and every element of claim 3.

The Office Action seeks to remedy some of the deficiencies of REDSonic with Douglas. The Office Action alleges that "Douglas has integrity checking feature which

would require real time processing in order to maintain the integrity of applications." As explained in detail in the prior response, Douglas does not disclose or suggest the use of hard real-time, as recited in claim 3. Furthermore, Douglas does not disclose or suggest using threads, running under a real-time kernel or non-real-time kernel, to monitor the integrity of other executing threads or an application, as required by claim 3. Monitoring system and audit logs, as described in Douglas, would not require the use of a hard real-time operating system, which requires that tasks be performed within a specified, fixed period of time.

Additionally, amended claim 3 now recites "a challenge handler executing under the hard real-time kernel" and "an external monitor programmed to determine whether the response from the challenge handler was received by the external monitor within a specified hard real-time interval." Douglas also does not disclose or suggest the use of a challenge handler and external monitor together with hard real-time timing constraints to monitor the integrity of an application.

Thus, Douglas fails to remedy the above-described deficiencies of REDSonic, and neither REDSonic, Douglas nor any of the other cited prior art, taken alone or in combination, discloses or suggest each and every element of claim 3. Claims 32-35 and 37-38 are cancelled by the above amendments rendering the rejections of these claims moot. Accordingly, Applicant respectfully requests that the rejection of claim 3 and claims 27-31 and 36, which depend thereon, be withdrawn.

Rejection of Claims 1, 2, 4-7, 14-20, 25-26 and 39-44 under 35 U.S.C. § 103(a)

Claims 1, 2, 39-40 and 42-43 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Douglas and further in view of O'Neal and U.S. Pat. 5,469,571 to

Bunnell. Claims 15 and 16 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Douglas and further in view of O'Neal, Bunnell, U.S. Patent Pub. No. US 2002/0026505 to Terry and Berg. Claims 25-26, 41 and 44 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Douglas and further in view of O'Neal, Bunnell and Berg et al. (U.S. Patent Pub. No. US 2001/0044904). Claims 6-7, 14 and 19-20 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Douglas and further in view of O'Neal, Bunnell and Terry. Claims 4-5 and 17-18 were rejected under 35 U.S.C. § 103(a) as being allegedly obvious over Douglas and further in view of O'Neal, Bunnell and Williams et al. (U.S. Patent No. 5,911,065).

Applicant respectfully traverses each of the rejections and submits that none of the cited prior art, taken alone or in combination, discloses or suggests each and every feature of the claims.

Independent claims 1 and 2, as amended, both require that the claimed "security process" be monitored for tampering. The security process of claim 1 includes a challenge handler that is configured to receive a challenge from an external monitor and send a response within a specified hard real-time interval. The external monitor will issue a notification and/or shut down at least part of the system if the response is not received from the challenge handler within the specified hard real-time interval. In claim 2, either the security process or a challenge handler is configured to respond to challenges sent from the external monitor and to issue a notification and/or shut down at least part of the system if the response is not received from the challenge handler within a specified hard real-time. In both claims 1 and 2, this claimed challenge/response feature is monitoring the <u>security process</u> for tampering – not simply monitoring the application and/or data

element used by the application. This adds an important additional level of protection which, notably, is not disclosed, suggested or appreciated in the cited prior art.

Thus, Applicant submits that the combination of cited prior art fails to disclose or suggest each and every feature of claims 1, 2, 4-7, 15-20, 25-26 and 39-44. Accordingly, the Applicant requests that the rejection of claims 1 and 2, and claims 4-7, 15-20, 25-26 and 39-44, which depend directly or indirectly thereon, be withdrawn, and claims 1, 2, 4-7, 15-20, 25-26 and 39-44 be allowed.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections, and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

In the event that this paper is not timely filed, Applicants respectfully petition for an

appropriate extension of time. Any fees for such an extension together with any

additional fees may be charged to Counsel's Deposit Account No. 02-2135.

Respectfully submitted,

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